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Ronald L. Grudziecki  
BURNS, DOANE, SWECKER & MATHIS, L.L.P.  
P.O. Box 1404  
Alexandria, VA 22313-1404

EXAMINER

CADUGAN, ERICA E

ART UNIT

PAPER NUMBER

3722

DATE MAILED: 05/14/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/987,941

Applicant(s)

DAHL ET AL.

Examiner

Erica E Cadugan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☒ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Faxing of Responses to Office Actions***

1. In order to reduce pendency and avoid potential delays, TC 3700 is encouraging FAXing of responses to Office Actions directly into the Group at (703) 872-9302 or, for responses after final rejection only, to (703) 872-9303. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into TC 3700 will be promptly forwarded to the examiner.

### ***Priority***

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Sweden on November 22, 2000. It is noted, however, that applicant has not filed a certified copy of the Swedish application as required by 35 U.S.C. 119(b).

### ***Claim Rejections - 35 USC § 112***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the

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explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 4, by virtue of its dependency on claim 3, recites the broad recitation "a cutting depth of 0.2-2mm", and the claim also recites "0.3-1.0mm" which is the narrower statement of the range/limitation.

***Claim Rejections - 35 USC § 102***

5. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,655,860 (Oles).

Oles teaches the milling of a bi-metallic engine block comprising aluminum and cast iron (col. 4, lines 52-62). Milling conditions for one of the tests that yielded desirable results (e.g., no burr) included dry milling (col. 6, line 26) with a silicon nitride milling insert (col. 5, lines 45-65) at a speed of 3500 feet per minute, feeding at 0.008 inches per tooth, and at a depth of cut of 0.070 inches (col. 6, lines 16-29). Note that the presently-claimed metric ranges of claim 1 convert to the following English units:

1000-3000 m/min is equal to a range of between 3280.84 ft/min. and 9842.52 ft/min;

0.05-0.5 mm/tooth is equal to a range of between 0.001969 inches and 0.019685 inches;

0.2-2mm is equal to a range of between 0.007874 inches and 0.07874 inches.

Thus, Oles' speed, feed, and depth of cut are within the claimed ranges.

Regarding claim 2, Oles is silent with respect to the value of the chip thickness produced by the insert. However, note that if all the other cutting conditions of Oles fall within the ranges claimed in the present invention, i.e., particularly depth of cut, **inherently**, the chips produced by Oles' insert will be produced with a thickness within the range set forth in claim 2. Note that if Oles' cutter cuts at a depth of cut that falls within the claimed range, the cutting edge is located at a location within the workpiece that is going to produce chips of thicknesses that are within the range of claim 2.

***Claim Rejections - 35 USC § 103***

6. Claims 3-4, 4 is as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,655,860 (Oles).

Oles teaches all aspects of the claimed invention as described in the above rejection based thereon. However, the cutting speed specifically taught by Oles is 3500 feet per minute, and the depth of cut specifically taught by Oles is 0.070 inches. The range of cutting speeds set forth in claim 3 is 1100 m/min - 2500 m/min, which converts to a range of 3609 ft/min - 8202.1 ft/min. The range of cutting depths set forth in claim 4 is 0.3-1.0 mm, which converts to 0.0118 inches - 0.0394 inches.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected a cutting speed (claim 3) and depth of cut (claim 4) in whatever range was desired or expedient, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

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***Response to Arguments***

7. Applicant's arguments filed February 14, 2003 have been fully considered but they are not persuasive as will be addressed hereinbelow.

8. With respect to the rejection of claim 1 under 35 USC 102(b) based on U.S. Pat. No. 5,655,860 (Oles), Applicant asserted the following:

With regard to the claimed method, it is alleged in paragraph 10 of the Official Action that:

Milling conditions for one of the tests that yielded desirable results (e.g., no burr) included dry milling with a silicon nitride milling insert (col. 5, lines 45-65)...

However, contrary to the above-quoted assertion, Oles fails to disclose dry milling with a silicon nitride insert as alleged. The portion of the disclosure appearing in column 5, lines 45-65 have been cited in support of the assertion. However, a review of this portion of the disclosure reveals that no reference whatsoever is made with regard to a milling operation performed without the benefit of coolant.

However, this assertion is not persuasive. It is noted that the sentence in its entirety from the previous office action that Applicant partially quoted above read as follows:

Milling conditions for one of the tests that yielded desirable results (e.g., no burr) included dry milling with a silicon nitride milling insert (col. 5, lines 45-65) at a speed of 3500 feet per minute, feeding at 0.008 inches per tooth, and at a depth of cut of 0.070 inches (col. 6, lines 16-29).

Note that Applicant was also referred to column 6, lines 16-29, where the particular test conditions were described, and note particularly that line 26 sets forth that the cutting was "dry".

9. Regarding Applicant's arguments on pages 6-7 of the response filed 2/14/2003 with respect to the rejection of claim 2 based on Oles, the 103 portion of the rejection of claim 2 has been withdrawn. However, the office action also set forth a 102 rejection of claim 2 which Applicant's arguments do not address, which rejection still applies, and which set forth the following:

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Regarding claim 2, Oles is silent with respect to the value of the chip thickness produced by the insert. However, note that if all the other cutting conditions of Oles fall within the ranges claimed in the present invention, i.e., particularly depth of cut, **inherently**, the chips produced by Oles' insert will be produced with a thickness within the range set forth in claim 2. Note that if Oles' cutter cuts at a depth of cut that falls within the claimed range, the cutting edge is located at a location within the workpiece that is going to produce chips of thicknesses that are within the range of claim 2.

10. Applicant's arguments with respect to claims 3-4 have been considered but are moot in view of the new ground(s) of rejection for these new claims.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica E Cadugan whose telephone number is (703) 308-6395. The examiner can normally be reached on M-F, 7:30 a.m. to 5:00 p.m., alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea L. Wellington can be reached on (703) 308-2159. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

*ecc*

ecc

May 12, 2003

*A. L. Wellington*  
A. L. WELLINGTON  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700